

Remarks

Claims 1-97 are pending in the present application as of the mailing of the Office Action.

The Office Action states that the application contains three distinct inventions. Invention I includes Claims 1-40 and 83-97; Invention II includes Claims 41-58; and Invention III includes Claims 59-82. As indicated during a telephone conversation between Examiner Kramer and Eric Hemm on February 27, 2004, Applicants elect to prosecute the claims of Invention I, which is directed to a system and method for comparing inventory velocity to a baseline. Thus, Applicants have cancelled the non-elected claims, Claims 41-82. Claims 98-113 are new.

The Examiner has rejected Claims 1-5, 12, 15-18, 20-23, 32-37, 83-87 and 91-94 under 35 U.S.C. 102(b) as being anticipated by U.S. Statutory Invention Registration No. H1743 to Graves et al.

A. **The Examiner's Rejections Under 35 U.S.C. 102(b) Should Be Withdrawn Because Graves Does Not Teach Every Element of The Rejected Claims.**

To anticipate a claim, the reference must teach every element of the claim. MPEP 2131. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Here, the Graves reference does not teach every element of Claim 1. Claim 1 is directed to a method of using a computer processor to monitor items being received and disbursed within a predetermined environment. The method comprises:

(a) providing a computer monitoring system having a memory circuit for storage of data, a communications port, and a processing circuit;

(b) providing a plurality of sensing circuits that detect at least one item as it is moved to predetermined locations within said predetermined environment;

(c) determining a probability pattern of a velocity of said at least one item as it passes one of said plurality of sensing circuits, and storing said probability pattern in said memory circuit;

(d) receiving, by way of said communications port, identification characteristic information pertaining to said at least one item as it passes one of said plurality of sensing circuits, and receiving time-related information corresponding to when said at least one item was detected by the one of said plurality of sensing circuits; and

(e) comparing an observed velocity of said at least one item passing one of said plurality of sensing circuits to said probability pattern, wherein the observed velocity is an inter-arrival time for said at least one item, and determining whether or not said observed velocity is anomalous, and if so generating a velocity event announcement that said observed velocity is one of: (i) occurring too slowly, or (ii) occurring too quickly.

1. Graves Does Not Teach “Determining A Probability Pattern Of A Velocity Of Said At Least One Item As It Passes One Of Said Plurality Of Sensing Circuits, And Storing Said Probability Pattern In Said Memory Circuit.”

Graves discloses a method and apparatus for inventory monitoring of a supply consumed in the manufacturing of a finished product. An inventory management system monitors the quantity of supplies in a storage facility. Based upon historical data related to the rate of usage of the supplies, the inventory management system determines the period of time until the stored supplies are depleted. If the supplies are depleted prior to a next scheduled delivery of replacement supplies, the inventory management system communicates with the supplier to move ahead the delivery date. Conversely, if the inventory management system determines that the supplies are being consumed at a rate lower than projected, the inventory management

system will instruct the supplier to delay a shipment date. The system disclosed in Graves is designed to operate with a plurality of manufacturing facilities, and to monitor the level of chemicals in a plurality of storage tanks or the number of headlights that are available at an automobile manufacturing plant. Thus, any consumable supplies can be monitored, and based upon the historical rate at which the supplies are consumed, modification of scheduled deliveries can be made based upon expected rates of consumption and usage information.

Thus, in essence, Graves teaches determining the amount of a consumable supply stored in a storage facility, such as a tank, over a predetermined period of time. In contrast, in essence, the claimed invention is directed to determining the “velocity” of an item, “velocity” being the frequency that the item passes a sensing circuit “as it is moved to predetermined locations within a predetermined environment.”

The Office Action states that Graves teaches a “processing unit [that] receives data and is able to determining [sic] the rate at which a good is used. This determined rate is stored in a database to produce a historical record of consumption (probability pattern of velocity) (column 6; lines 36-45).” Applicants respectfully disagree. Graves does not teach “determining a probability pattern of a velocity of said at least one item as it passes one of said plurality of sensing circuits.” Graves simply teaches determining an historical rate of consumption, i.e., the quantity of a supply consumed (by a manufacturing process) over a predetermined amount of time. The “probability pattern of velocity” is a statistical model for sales and velocity of items or groups under varying conditions of price, time of day, season, promotion and competition activities. See, Specification, page 6, paragraph 0064. Thus, for example, the claimed invention “is capable of calculating the probability of observing zero sales of an item over a particular time interval since the last observed sale of that same item, given the current price of the item from an

Item Table, or an estimate made by examining recent prices for the item, and given the total store or category sales over that time interval.” See, Specification, page 6, paragraph 0076. Graves does not disclose determining the “probability ” that a consumable supply is used at a particular rate. Rather, Graves discloses simply determining and storing an historical rate of consumption.

Furthermore, it is improper to equate, as the Office Action does, Graves’ teaching of determining a rate at which a good is used to produce a “historical record of consumption” with the claimed “probability pattern of velocity.” The Office Action has not established a prima facie case that “historical record of consumption” disclosed by Graves is equivalent to the “probability pattern of velocity” of Claim 1. See MPEP 2183. Indeed, as required by MPEP 2183, the Office Action has not found that the “historical rate of consumption” performs the same function as the “probability pattern of velocity,” as specified in the claim. The “historical record of consumption” is not equivalent to the “probability pattern of velocity” because the function of the “probability pattern of velocity” is for “determining whether or not said observed velocity is anomalous,” after “comparing an observed velocity of said at least one item passing one of said plurality of sensing circuits to said probability pattern.” If the observed velocity is anomalous, then a “velocity event announcement” is generated that “said observed velocity is one of: (i) occurring too slowly, or (ii) occurring too quickly.” Of course, as discussed in the specification, an “occurring too slowly” velocity event announcement may indicate, for example, that an item is not on the shelf, or is on the wrong shelf:

On the other hand, if an item is selling much more slowly than would be expected, this could mean that the item is literally missing from the shelf, even though there are plenty of these items somewhere else in the store. They could be on a different shelf, which could be either a sales shelf or an incorrect shelf altogether, or they could be all in the store room or on a cart someplace where they are not in a condition for a consumer to purchase the item.

Specification, page 8, paragraph 0084. In contrast, the function of the “historical rate of

consumption” is to determine whether a consumable supply may be deplete prior to the next scheduled delivery of that consumable supply. Graves, col. 2, ln. 25-34.

In addition, Grave does not teach determining “a probability pattern of a velocity of said at least one item.” The specification defines “velocity” as “the frequency with which an item is observed.” See, specification, page 5, paragraph 0058. Graves simple determines an historical “usage rate,” by determining the amount of the consumable supply in a storage facility at predetermined time intervals:

A level of the chemical in the storage tank 102 is electrically measured by sensor 100, which may be, for example, a differential pressure cell sensor that produces a scalable signal in the range of approximately 4-20 mA. Rosemont, Inc. manufactures a suitable sensor, which is available as part number 1551LT45A0A22D. Preferably, provisions are provided to enable the calibration of the differential pressure cell sensor 100 prior to the beginning of monitoring the chemical level in the storage tank 102.... In the preferred embodiment, the signal inputted to the processing unit 106 is converted to a percentage value of the storage tank capacity by the IMP interface module 104.

Graves, Col 5, ln. 5-27.

In addition, the claimed invention determines the velocity of an item, in “real time,” i.e., “as the item passes one of said plurality of sensing circuits.” Graves, however, does not disclose determining the velocity of an item “as the item passes one of said plurality of sensing circuits.”

2. Graves Does Not Teach “Receiving, By Way Of Said Communications Port, Identification Characteristic Information Pertaining To Said At Least One Item As It Passes One Of Said Plurality Of Sensing Circuits, And Receiving Time-Related Information Corresponding To When Said At Least One Item Was Detected.”

The Graves reference does not disclose the claimed step of “receiving ... identification characteristic information” pertaining to an item. In Graves, the inventory management apparatus knows the contents of the storage facility being monitored, e.g., a chemical. Thus, there is no need for, and no disclosure of, “receiving ... identification characteristic information.” In contrast, the claimed invention is directed to determining the velocity of an

item. The “identification characteristic information” is necessary because the claimed invention is directed to a method to monitor “items being received and disbursed.” Thus, as an item passes a sensing circuit, the claimed invention must be able to identify the item, which is accomplished by “receiving ... identification characteristic information.”

In addition, Graves does not disclose “receiving ... time-related information” that corresponds to when an item was detected. Graves, in contrast, determines the time at which the amount of a consumable supply is measured. Since Graves does not measure or store item “velocity” information, i.e., the frequency with which an item passes a sensing circuit, there is no need for, and thus no disclosure of, receiving the claimed “time related information.”

3. Graves Does Not Teach “Comparing An Observed Velocity Of Said At Least One Item Passing One Of Said Plurality Of Sensing Circuits To Said Probability Pattern, Wherein The Observed Velocity Is An Inter-arrival Time For Said At Least One Item.”

The Office Action states that Graves teaches “the inventory management system compares the projected usage level to actual usage levels.” While this is true, Claim 1 includes no such limitation. Rather, Claim 1 teaches the step of “comparing an observed velocity of said at least one item passing one of said plurality of sensing circuits to said probability pattern.” As discussed above, Graves does not even disclose determining an “observed velocity” or determining a “probability pattern of velocity,” as specified by Claims. Thus, Graves also cannot, and does not, disclose the step of “comparing an observed velocity ... to said probability pattern,” which is recited in Claim 1.

In addition, Graves does not teach “comparing an observed velocity” An “observed velocity” for an item is “an inter-arrival time” for the item. An “inter-arrival time” “refers to the number of time units or monetary units that pass between observations of an item of quantity one (1) or more as it is being detected at one of the sensors/detectors.” Specification, page 5,

paragraph 0059. Graves does not teach determining or comparing “an inter-arrival time” for an item.

4. Graves Does Not Teach “Determining Whether Or Not Said Observed Velocity Is Anomalous, And If So Generating A Velocity Event Announcement That Said Observed Velocity Is One Of: (i) Occurring Too Slowly, Or (ii) Occurring Too Quickly.”

Graves also does not teach “determining whether or not said observed velocity is anomalous,” because, as discussed above, Graves does not teach determining an “observed velocity” or comparing the “observed velocity” to a “probability pattern.” Similarly, Grave does not teach “generating a velocity event announcement that said observed velocity is one of: (i) occurring too slowly, or (ii) occurring too quickly;” because Graves does not teach determining an “observed velocity,” comparing the “observed velocity” to a “probability pattern,” or determine whether the “observed velocity” is anomalous.

Based on the foregoing, Claim 1 is allowable over Graves.

Claims 2-5 all depend on Claim 1. In order for Graves to anticipate Claims 2-5, Graves must teach each and every limitation of these Claims. The Office Action, however, does not even state that the specific additional limitations of Claims 2-5 are taught by Graves. Moreover, as discussed above, Graves does not teach each and every limitation of Claim 1. Thus, Graves cannot and does not teach each and every limitation of Claims 2-5, which contain all of the limitations of Claim 1.

Graves also does not disclose the “Learning Mode” of Claim 2, the “creating or modifying” step of Claim 3, the “identification characteristic information” limitation of Claim 4, or the “Detection Mode” of Claim 5.

As to independent system Claim 12, it contains the same essential limitations as independent method Claim 1. Therefore, Claim 12 is allowable over Graves for the same reasons that Claim 1 is allowable over Graves.

Claims 15 and 16 depend on Claim 12. In order for Graves to anticipate Claims 15 and 16, Graves must teach each and every limitation of these Claims. The Office Action, however, does not even state that the specific additional limitations of Claims 15 and 16 are taught by Graves. Moreover, as discussed above, Graves does not teach each and every limitation of Claim 12. Thus, Graves cannot and does not teach each and every limitation of Claims 15 and 16, which contain all of the limitations of Claim 12.

In addition, Graves does not teach the limitation of Claim 15 that the predetermined environment is a warehouse or the limitation of Claim 16 that the predetermined environment is a distribution center.

Claim 17 is directed to a method of using a computer processor to analyze velocity patterns of movement of items being received and disbursed within a predetermined environment. The method comprises the following steps:

- (a) providing a computer monitoring system having a memory circuit for storage of data, and a processing circuit;
- (b) receiving data pertaining to at least one transaction involving at least one item of inventory in said predetermined environment; and
- (c) using a dynamically determined probability pattern of a velocity of said at least one item, after said at least one transaction to determine whether an observed velocity is one of: (i) occurring too slowly, or (ii) occurring too quickly.

As discussed in detail above with respect to Claim 1, Graves does not teach a) determining a “probability pattern of velocity,” dynamically or otherwise, b) determining “an observed velocity,” or c) using the determined probability pattern to determine if the observed velocity is “one of: (i) occurring too slowly, or (ii) occurring too quickly.” Thus, Claim 17 is allowable over Graves.

Claims 18, 20-23, 32 and 33 all depend on Claim 17. In order for Graves to anticipate Claims 18, 20-23, 32 and 33, Graves must teach each and every limitation of these Claims. The Office Action, however, does not even state that the specific additional limitations of Claims 18, 20-23, 32 and 33 are taught by Graves. Moreover, as discussed above, Graves does not teach each and every limitation of Claim 17. Thus, Graves cannot and does not teach each and every limitation of Claims 18, 20-23, 32 and 33, which contain all of the limitations of Claim 17.

In addition, Graves does not disclose the limitation of Claim 18 that the dynamically determined probability model “uses a statistical model to predict a probability of the inter-arrival times of said at least one item,” the step of “detecting an Out-of-Stock Event” of Claim 20, the limitation of Claim 21 that the “Out-of-Stock Event” is comprised of “a time interval during which said at least one item appears to be physically out of stock,” the step of “forecasting of inventorying replenishment levels that removes the effect of stock-outs before generating forecasting reports” of claim 22, the limitation of Claim 23 that the “dynamically determined probability pattern” is determined “by use of one of: “(i) historical transaction data, or (ii) transaction data that is gathered in substantially real time,” the step of “detecting a slow event” of Claim 32, or the step of “detecting a fast event” of Claim 33.

Independent Claim 34 is directed to a method of using a computer processor to analyze velocity patterns of movement of items being received and disbursed within a predetermined

environment. The method comprises the following steps:

(a) providing a computer monitoring system having a memory circuit for storage of data, and a processing circuit; and

(b) automatically training said computer monitoring system using either historical data or data gathered in substantially real time, thereby learning item velocities for a plurality of items.

Graves does not teach several elements of Claim 34. First, Graves is not directed to analyzing “velocity patterns of movement of items being received and disbursed within a predetermined environment.” Rather, Graves only discloses determining an historical usage rate and a projected usage rate. In addition, Graves does not disclose any “training” of a computer monitoring system, automatic or otherwise. Graves teaches measuring the amount of a consumable supply at predetermined time intervals to determine an historical usage rate. Graves also does not disclose learning “item velocities for a plurality of items.” As discussed in detail above with respect to Claim 1, Graves does not disclose determining an item velocity.

Claims 35-37 all depend on Claim 34. In order for Graves to anticipate Claims 35-37, Graves must teach each and every limitation of these Claims. The Office Action, however, does not even state that the specific additional limitations of Claims 35-37 are taught by Graves. Moreover, as discussed above, Graves does not teach each and every limitation of Claim 34. Thus, Graves cannot and does not teach each and every limitation of Claims 35-37, which contain all of the limitations of Claim 34.

In addition, Graves does not disclose the limitation of Claim 35 that the learned item velocities “vary as a function of: total predetermined environment velocity, time of day, day of week, season, holidays, and market conditions of said predetermined environment,” the limitation of Claim 36 that predetermined environment comprises “one of: a retail store, a chain

of retail stores, a warehouse, a chain of warehouses, a distribution point, or a chain of distribution points,” or the step of Claim 37 of “automatically re-training said computer monitoring system on a periodic basis using substantially real time data throughout a periodic interval.”

Claim 83 is directed to an item velocity monitoring system, comprising:

- (a) a plurality of sensing circuits that detect at least one item as it is moved to predetermined locations within a predetermined environment;
- (b) a computer monitoring system, comprising:
 - (i) a memory circuit for storage of data, said memory circuit containing a quantity of random access memory (RAM) and a bulk memory storage device;
 - (ii) a communications port that is effectively connected to at least one of said sensing circuits and to said memory circuit; and
 - (iii) a processing circuit that is configured to control the flow of data between said memory circuit and said communications port;
- (c) said processing circuit also being configured to:
 - (i) receive data pertaining to at least one transaction involving at least one item of inventory in said predetermined environment; and
 - (ii) dynamically determine probability pattern of a velocity of said at least one item, after said at least one transaction to determine whether an observed velocity is one of: (i) occurring too slowly, or (ii) occurring too quickly.

As to independent system Claim 83, it contains the same essential limitations as independent method Claim 17. Therefore, Claim 83 is allowable over Graves for the same reasons that Claim 17 is allowable over Graves.

Claims 84-87 all depend on Claim 83. In order for Graves to anticipate Claims 84-87, Graves must teach each and every limitation of these Claims. The Office Action, however, does not even state that the specific additional limitations of Claims 84-87 are taught by Graves. Moreover, as discussed above, Graves does not teach each and every limitation of Claim 83. Thus, Graves cannot and does not teach each and every limitation of Claims 84-87, which contain all of the limitations of Claim 83.

In addition, Graves does not disclose the limitation of Claim 84 that the dynamically determined probability pattern “uses a statistical model to predict a probability of inter-arrival times” of an item, the limitation of Claim 85 that the processing circuit is further configured to detect an Out-of-Stock Event “using a probability of observing zero sales of said at least one item since a last observed sale of that item,” the limitation of Claim 86 that upon the occurrence of said Out-of-Stock Event, the computer monitoring system “summarizes events, determines their causes, and measures their impacts,” or the limitation of Claim 87 that dynamically determined probability pattern is determined by “training said computer monitoring system by use of one of: (i) historical transaction data, or (ii) transaction data that is gathered in substantially real time.”

Claim 91 is directed to an item velocity monitoring system, comprising:

(a) a plurality of sensing circuits that detect at least one item as it is moved to predetermined locations within a predetermined environment;

(b) a computer monitoring system, comprising:

(i) a memory circuit for storage of data, said memory circuit containing a quantity of random access memory (RAM) and a bulk memory storage device;

(ii) a communications port that is effectively connected to at least one of said

sensing circuits and to said memory circuit; and

(iii) a processing circuit that is configured to control the flow of data between said memory circuit and said communications port; and is further configured to automatically train said computer monitoring system using either historical data or data gathered in substantially real time, thereby learning item velocities for a plurality of items.

As to independent system Claim 91, it contains the same essential limitations as independent method Claim 34. Therefore, Claim 91 is allowable over Graves for the same reasons that Claim 34 is allowable over Graves.

Claims 92-94 all depend on Claim 91. In order for Graves to anticipate Claims 92-94, Graves must teach each and every limitation of these Claims. The Office Action, however, does not even state that the specific additional limitations of Claims 92-94 are taught by Graves. Moreover, as discussed above, Graves does not teach each and every limitation of Claim 91. Thus, Graves cannot and does not teach each and every limitation of Claims 92-94, which contain all of the limitations of Claim 91.

In addition, Graves does not disclose the limitation of Claim 92 that the item velocities “vary as a function of: total predetermined environment velocity, time of day, day of week, season, holidays, price, and market conditions of said predetermined environment,” the limitation of Claim 93 that the predetermined environment comprises “one of: a retail store, a chain of retails stores, a warehouse, a chain of warehouses, a distribution point, or a chain of distribution points,” or the limitation of Claim 94 that the processing circuit is further configured “to automatically re-train said computer monitoring system on a periodic basis using substantially real time data throughout a periodic interval.”

The Office Action rejected Claims 6-13 under 35 U.S.C. 103(a) as being unpatentable over Graves et al. in view of the Official Notice that it is old and well known that retail point of sales sell consumable supplies. In addition the Office Action rejected Claims 19, 24-30, 38-40, 88-90 and 95-97 under 35 U.S.C. 103(a) as being unpatentable over Graves et al. in view of the Official Notice that the Poisson statistical model is old and well known for determining the probability of an occurrence, and further that lambda and alpha are known variables within this model.

B. The Examiner's Rejections Under 35 U.S.C. 103(a) Should Be Withdrawn Because The Office Action Has Not Met the Burden of Establishing a Prima Facie Case of Obviousness With Respect to Independent Claims 6-13, 19, 24-30, 38-40, 88-90 and 95-97.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143.

Here, Graves in view of Official Notice do not teach or suggest all of the limitations of Claims 6-13. The Office Action states that "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the inventory management method and system of Graves et al. to include a retail point of sale in order to monitory [sic] the inventory of consumable supplies at those locations." Applicants note that even if Graves is properly combined with the Official Notice, the combination of these references still does not teach or suggest each and every limitation of Claims 6-13. Specifically, there are several limitations in Claim 1, upon which Claims 6-11 depend that are still not taught or disclosed by

Graves in view of Official Notice. The discussion of those specific limitations is set forth above in connection with the discussion of Claim 1 and will not be repeated here but is incorporated herein by reference. Similarly, the combination of these references still does not teach or suggest each and every limitation of Claim 13. Specifically, there are several limitations in Claim 12, upon which Claim 13 depends that are still not taught or disclosed by Graves in view of Official Notice. The discussion of those specific limitations is set forth above in connection with the discussion of Claim 12 and will not be repeated here but is incorporated herein by reference.

Additional limitations of these dependent Claims that are not taught or disclosed by Graves in view of Official Notice are:

- the limitation of Claim 6 that the step of receiving identification characteristic information “occurs when said at least one item is being sold at a point-of-sale register ... during a Detection Mode of operation;”
- the limitation of Claim 7 that when the observed velocity is occurring too slowly, it is “indicative of one of the following conditions: (i) said at least one item is substantially hidden while residing in its correct location on a display shelf; (ii) said at least one item is completely out-of-stock on said display shelf; (iii) said at least one item has been placed at an incorrect location within said predetermined environment, or (iv) access to said at least one item has been substantially prevented by an obstruction;”
- the step of Claim 8 of “generating an out-of-stock declaration ... in advance of an actual store-out-of-stock condition for that item when said observed velocity is occurring too quickly;”
- the limitation of Claim 9 that the step of comparing the observed velocity to a

probability velocity model takes into consideration “at least one of the following factors: varying price conditions, time of day, day of week, week of year, promotion activities, or competitive activities;”

- the limitation of Claim 10 that the step of comparing the observed velocity to a probability velocity model takes into consideration “a usage history of items being disbursed and received;” and
- the limitation of Claim 11 that “said Detection Mode of operation and said Learning Mode of operation occur simultaneously.”

As to Claims 19, 24-30, 38-40, 88-90 and 95-97, Graves in view of Official Notice does not teach or suggest all of the limitations of these Claims. The Office Action states that “it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the forecasting algorithm of Graves et al. to include the Poisson statistical model in order to utilize a known and respected model for determining usage of a good in the future.” Applicants note that even if Graves is properly combined with the Official Notice, the combination of these references still does not teach or suggest each and every limitation of Claims 19, 24-30, 38-40, 88-90 and 95-97. Specifically, there are several limitations in the independent Claims upon which Claims 19 and 24-30 depend that are still not taught or disclosed by Graves in view of Official Notice. The discussion of those specific limitations is set forth above in connection with the discussion of those independent Claims and will not be repeated here but is incorporated herein by reference.

In addition, Applicants note that Graves et al. in view of Official Notice do not teach the limitation of the “modified” Poisson model, which is a limitation of Claims 19, 26-30, 90. As discussed in the Specification, the “modified Poisson” model is based on “store sales” rather than

using “actual clock time”:

In a preferred mode of operation, the item velocity monitoring system uses a modified Poisson statistical model in which arrivals of items at the transaction points occur at random time intervals. In this statistical model, the probability that such a time interval will be at least “t” units long is equal to $P(t > T)$, or expressed another way, as $e^{-\lambda t}$ ($e^{-\text{lambda} \cdot t}$) time units. In the preferred embodiment, time can be expressed in store sales (i.e., in cumulative amounts of dollars being transacted since the previous observation of the item) rather than using actual clock time. For example, one would expect greater sales activity (or velocity of item movement) at noon on a Saturday than at midnight on a Sunday, and the incremental total store income (in dollars) can be used as substitute “time” intervals to more accurately portray and analyze the activity.

Specification, page 8, paragraph 0085 (emphasis added).

Additional limitations of these dependent Claims that are not taught or disclosed by Graves in view of Official Notice are:

- the limitation of Claims 24, 38, 88, 95 that the training step “occurs in a plurality of iterative passes to create: a Final Base Lambda Table, a Final Adjustment Alpha Table, a Store Table, and a UPC Table or Item Table;”
- the limitation of Claims 25, 40, 89 and 97 that the “Final Base Lambda Table, Final Adjustment Alpha Table, Store Table, and UPC Table or Item Table are used to calculate a probability distribution for an inter-arrival interval;”
- the limitation of Claim 26 that “store sales or category sales are used to measure time in said modified Poisson distribution for inter-arrival times;”
- the limitation of Claim 27 that “a choice is made whether to use store or category sales for time;”
- the limitation of Claim 28 that “a Poisson parameter lambda is a function of Base Lambda and Adjustment Alpha, which include information as saved data and lookup tables on: SKU, store, and various effects, including price point, promotion, season, holiday, time-of-day, day-of-week, and market conditions;”

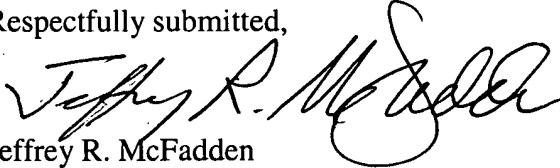
- the limitation of Claim 29 that “a median is used to estimate said Lambda model parameter;”
- the limitation of Claims 30 and 90 that “the velocity of said at least one item comprises two random variables, inter-arrival time and quantity;” and
- the step of Claims 39 and 96 of “computing Intermediate Base Lambdas using item transaction data and said item’s inter-arrival time.”

Claims 98-113 are new, but all depend on independent Claims, which, as discussed above, are allowable over the cited references. Thus, new Claims 98-113 are also allowable.

Conclusion

Applicants believe that this case is now in condition for an immediate allowance, and such action is respectfully requested. If any issue remains unresolved, Applicants' counsel would appreciate the opportunity for a telephone interview to expedite allowance.

Respectfully submitted,



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Date: August 11, 2004
File No.: S48906 1020.1